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OF THE OFFICE OF

DRY LAND AGRICULTURE INVESTIGATIONS

BUREAU OF PLANT INDUSTRY

U. S. DEPARTMENT OF AGRICULTURE.

SEASON OF 1915.

APR 3

1915.

Reports for week ending April 3, 1915.

Amarillo.

As a local paper sagely remarks, If spring has arrived in Amarillo it is in disguise. The past week has been another one of cold and cloudy weather. On March 31st snow fell which in precipitation amounted to .27"- the total for the week. This snow was melted by noon the next day. Maximum temperature for the week was 73 on March 29th and Minimum 26 on the 30th. Average mean for week was 41. The average hourly wind velocity for the week was 6.8 miles.

The average hourly wind movement for Jan. Feb. & March was 8.3, 8.2, & 7.7 miles respectively by the station gauge, while according to the local W. B. it was 12.3, 12.2, & 11.0 miles in the same order. This marks the difference between the register of an anemometer placed 2 feet above the ground and one about 35 feet up.

Very little field work has been done at the station this past week outside of some date plantings of cereal and forage crops. Considerable ground around here is being prepared for Sudan grass seeding.

The following is a clipping from "The Daily Panhandle of Amarillo" of April 1st:

"Farm and stock methods are undergoing a remarkable change through Northwest Texas and Eastern New Mexico. From the time the rich grasses of the plains first invited the nomadic cowman to within the last few years cattle and sheep depended exclusively on the native grass. The losses in dry years were enormous. Yet the stockman figured that whatever was saved was profit.

But progressive men concluded it was worth saving every hoof, so they tried feeding and it paid handsomely. And today the stockman that does not at least feed cotton seed cake to his stock on grass in winter is the exception. But the building of silos is becoming general as every year feed may be raised to fill them. The stockman have discovered that it pays to keep the calves growing for one thing and that well kept cows bring stronger calves, for another thing.

In the meantime the farmers have found that just growing alfalfa, grain and fruit in the end does not pay very well. So they are turning to dairying, hogs and feeding; marketing the hay and grain on the hoof. The dry farmer learned the lesson first and is on the road to prosperity. The silo is his great friend in need. The irrigation farmer is learning the lesson now that the stock on the farm is the real money-maker. Hogs are grown on alfalfa pasture and kafir corn and finished on ground kafir corn and cotton seed meal, fed in self feeders. Cows are milked and the cream goes to the creamery. Cattle and sheep from the ranges to into the feed lot in the fall, turning the feeds into money. The real old timer shakes his head at the new order of things, but the new methods are bringing prosperity to this large district that by nature is adapted to growing stock."

Archer.

The past winter has been very mild in this section. November, December, February and March have had higher mean temperatures than normal, while the mean temperature for January was above normal. Precipitation for the above named months has been below normal, except in February when it was slightly above normal. The total precipitation since harvest (Aug. 1st) up to the present time, has been below the average for that time, and old timers here claim that a dry winter is followed by a wet summer, so are expecting good crops this season. Due to crop failures and short crops, the past two seasons, many of the farmers are "making their last stand" and will be forced to leave if this season does not bring them relief.

Stock came through the winter in good shape, in this section, receiving practically no feed beside what they could rustle.

The weather has been stormy with flurries of snow nearly every day since the 24th, but has cleared now and we are expecting to begin field work the coming week, or as soon as the fields are dry enough to be worked.

Winter wheat survived the winter in fine shape, as far as can be told at this time, and indications are for a good crop.

Weather for the past week; max. 61, min. 22, precipitation .42 inch, wind velocity 8.5 miles.

Ardmore.

Spring is opening up in this section very slowly. The first snow fell on December 10th, and the ground has not been bare from that date until the present time. It is melting some today, but there is considerable snow left. There has been a total of 28 inches of snow during the winter. It has been the hardest winter on stock that has been experienced in this section for fifteen years. Not a great many head of either horses or cattle have been lost, but cattle are for the most part very weak. It is expected that many will die during the coming month. Most all of the cattle men are feeding but feed is very high priced and very hard to obtain at any price.

There is an abundance of moisture and apparently crops will get a good start in the spring. I am not, however, very enthusiastic. I have seen just such favorable indications result in disastrious crop failures in this section.

Mr. Sarvis left here on April 27th for Mandan where he will be located in the future.

Bellefourche. Report for week ending March 27:

Most of the snow disappeared during the week, but the ground is still frozen and it will be some time before any field work can be done. The past week as a whole has been cool and cloudy though the amount of precipitation has been small.

Maximum for the week 50, minimum 4. Precipitation .09 inch.

Bellefourche. Report for week ending April 3:

No field work has yet been done, and even under the most favorable conditions none can be done until the latter part of next week.

The past week as a whole has been cold and cloudy with only a small amount of precipitation. The snow is all gone from the plats but the soil is still wet.

Maximum temperature for week 52, minimum 20. Precipitation .04 inch.

Precipitation for year to date, Jan. .92", Feb. 1.01", March .16", Total 2.09".

Big Springs.

Buildings:

The interior finishing work in the office is being completed this week. The large doors for the barn are being made and will be hung next week. The making and the hanging of these doors will finish the barn and implement shed. The rooms of the residence are being plastered this week, consequently the carpenter work in this building will have to wait until the plaster dries sufficiently to permit further finishing work, on this building.

Farm Work:

The field was finished with the disk-packer for the first cultivation about the middle of the week. The pruning of the peach orchard was finished Friday morning. The delay in getting this orchard pruned was due to bad weather. On Friday eight varieties of American and European grapes were set in the vineyard for testing. These eight varieties were put out as a started and it is planned to make additional plantings on a larger scale next season.

A shipment consisting of five hundred trees and plants was received Saturday morning. The trees and plants will be set out around the grounds and buildings the coming week.

No crops have been planted on the station yet, and on examination of the soil it was found that the first few inches is quite dry, and unless more moisture comes soon, a lister will have to be used to put the seed down in moist soil. On account of the recent cold weather, very little planting has been done throughout this section, though a few of the farmers have planted a few acres of corn.

Weather:

Most of the week has been cold and cloudy with some rain, but the amount was to small to help much. On Wednesday morning quite a number of snow flakes were seen falling. It was reported that fifty miles west of us, over three inches of snow fell on the same day. Saturday morning, (April 3) we had quite a heavy frost, but was not heavy enough to do much damage to fruit

Additional Note:

Professor Chilcott, visited the station on March 25th, 26th and 27th, and inspected the buildings being constructed. He left Saturday night the 27th for Lawton, Oklahoma.

From 150 to 200 visitors come out to the station each week and inspect the buildings and station work we are doing.

Colby.

Plats MC W.,O.,& B. A and 7 A, 7 B, 9 A, & 9 B were plowed the 29th. The corn stubble ground was in excellent condition for plowing but the wheat stubble ground was a bit wet and sticky. The wheat stubble plats adjoining plats C of Rot. 501 to 510 and 551 to 560 (fallow last year and now in winter wheat) on the east have accumulated from 1/4"to 1" of new soil as a result of six days of high northwest winds which blew during the last week of January and the first week of March. The wheat does not seem to have suffered, though the drill ridges were leveled.

On the 30th we had a combination thunder and snow storm. Four inches of snow fell, and remained on the ground til April first postponing the rest of the field work till today. This afternoon the early spring plowing was completed. A stiff wind blowing from the south is drying things rapidly so that field work can commence in earnest next week.

Weather for the week;-Maximum temperature 56, minimum 25, average hourly wind velocity 6.3 miles, five cloudy days, 4" snow, precipitation .44".

Weather for March;-Maximum temperature 61 on the 23rd., minimum 8 on the 10th., snowfall 12.55"; precipitation 1.43", normal .76", March 1914 .21; prevailing direction of wind N, evaporation since the 13th .962", average hourly wind velocity 6.4 miles. Precipitation in Jan., Feb., and March 3.30"; Normal 1.52"; Jan. Feb., and March 1914 .71". Precipitation Dec. 1 to April 1, 1915 3.81"; Normal 2.10; Precipitation Dec. 1913 to April 1, 1914 5.27". Snowfall Jan., Feb., and March 1915 26.55". Depth of moisture on ground cropped in 1914 12" to 18". Depth of moisture on ground fallow in 1914 .36".

Dalhart.

The native grasses which are usually green at this time of year have shown no signs of having made any growth. Winter wheat and rye have not made any growth and it is impossible to tell at this time what the prospects for a spring growth will be beyond the fact that a good stand has come through the winter. The weather has on the whole been rather cold and cloudy with two or three good days. The spring grains have all been seeded and there is apparently enough moisture in the soil to insure germination. Maximum temperature for the week 72; minimum 38. Precipitation .02".

Dickinson.

There is still too much frost in the ground to work in the fields to advantage. A few farmers have done a little harrowing and disking and one case of seeding has been reported.

The condition of the weather for the week has been quite uniformly fair. The latter half of the week has been warm and today there were indications of rain. March has been reported very dry and the winter as a whole mild. There was no precipitation during the week and the total for March was .21 inch. The total for October to March inclusive was 1.70 inches.

Garden City.

The weather remained cold and cloudy until the latter part of the week; but indications at present are favorable for milder weather.

Early spring listing was finished the fore part of the week and potatoes were planted on April 2nd. Furrows were opened with a lister and the seed covered about 4" deep with a lister cultivator. A corn planter was then run over the rows to compact the soil about the potatoes.

Soil sampling was done on the irrigated mulch plats during the week to determine the rate of percolation of water in the soil and the maximum carrying capacity.

Maximum temperature for the week 60; minimum 25.

Hays.

Weather continues unsettled. Snow flurries the first of the week with light freezes at night. The latter part of the week has been warmer, having only frosts at night instead of freezes. There has been but little wind, until today, April 3rd. No sun during the week until yesterday and today.

Meteorological instruments were all put in readiness and mounted for action before or by April 1st.

Thermometers have been placed in the soil on two plats of winter wheat to begin soil temperature readings.

No field work until Friday afternoon on account of wet soil. Seeding of small grains and grasses was resumed April 2nd. Brome grass and peas were seeded the 2nd and barley and oats were seeded the 3rd.

The soil is in very fine condition for seeding.

Hettinger.

The weather has been cold until today when the temperature rose considerably. No field work has been done as yet except the entire farm is being raked and burned over with the idea of getting rid of Russian thistle which seems to have had a prominent place in the general cropping scheme.

Former Supt. Lanxon and family left on the 2nd for Aberdeen, S. D. where he will teach agriculture at the Normal temporarily until he locates a suitable place to begin farming for himself.

H. C. McKinstry, former Asst. in D. L. A. in charge of the D. L. A. work on this station shipped out of here with a carload of goods and livestock for Jackson Hole, Wyoming where he will engage in ranching.

This station carries nearly $4,000 worth of livestock, dairying, horse raising, swine and poultry receiving attention in the order named. The experimental work consists of Dry Land Rotations, Flax rotations and minor variety trials with cereals and forage crops. The main fields are devoted to alternate grain and corn cropping in order to furnish the large amount of feed necessary.

Akron.

No field work has been done to date. The weather of the past week has been warm enough for field work but a snow fall of 4 inches on Monday night did not melt until Friday.

The winter precipitation has been heavy enough to bring winter grains through the winter in good condition and leave the soil with a little more than the normal amount of moisture. Trees came through the winter in very good condition.

Maximum temperature for the week 57, minimum 20. Precipitation .5 inch.

Edgeley.

Spring is apparently opening quite early this year. Many farmers have been working in the fields and some seeding has been done altho where there is any moisture the soil has not thawed except on the surface. No field work has been done yet on the station.

The soil at the present time is very dry. There was but little rain last fall after harvest and there has been little moisture during the winter that went into the ground. The total precipitation since last harvest up to the present time has been 4.61 inches. The smallest precipitation previously recorded between the dates of sampling at harvest time and the first sampling in the spring is 5.28 inches while the average is 8.50 inches.

The past week has been clear with some wind. The mean temperature for the week was 26 degrees, the maximum 46, and the minimum temperature 7°.

Apparently on account of the lumpy condition in which the soil was left last fall, because of its dry condition when plowed, there has been but little blowing of the fall plowed plats this winter. No soil has been blown on the clover and alfalfa plats as has usually been the case either.

Mr. Thompson leaves for Fargo Monday for a consultation with the officials there in regard to the work for the coming year at this station.

Huntley. Report for week ending March 27.

The weather for the past week has been what might be expected in March. The first two days were bright; On the 24th there was .38" of precipitation in rain and snow. The latter portion has been bright and windy, but the ground was too wet for field work. Maximum temperature 55°, minimum 11°.

Huntley. Report for week ending April 3.

Weather for the past week has been rather windy with a few days warm enough to start winter grain and the native grasses. A light snow fell on the 29th. Spring plowing is being done. A few farmers in this locality have seeded wheat.

Maximum temperature 74°, April 2d; minimum 24° March 29th.

The following gives the March averages for temperatures and precipitation for the past 5 years;

	1911	1912	1913	1914	1915
Maximum temperature	53	32	36	49	44
Minimum temperature	27	5	12	23	22
Mean temperature	41	19	24	36	33
Precipitation	.15	.41	.40	.52	.78

Mandan. Report for week ending March 27.

There is still too much frost in the ground to permit of field operations. Considerable horse feed was ground and seed grain cleaned. A two years supply of seed was cleaned of wheat, oats, barley, flax and millet. The ground floor of the implement shed was graveled to a depth of three inches.

On account of the inadequacy of our present water supply and its unfitness for drinking purposes and greenhouse use, an effort is being made to have the city extend its water mains to the station line, a distance of 3200 feet.

A "Farmers' Day" was held in Mandan on the twentieth. A number of institute speakers addressed the farmers during the afternoon. The Mandan Creamery was opened on this day and a free lunch served to all farmers. Notwithstanding the inclemency of the weather, from two to three hundred farmers were present.

Mandan. Report for week ending April 3.

Field operations began this week with the disking of breaking which was backset last fall. There was no precipitation during March. As the late fall and winter months were also practically devoid of precipitation, the soil is rather dry for seeding.

Arrangements have been made for leasing the section of State school land for grazing experiments. This section will be leased pending action by Congress which will enable the State of North Dakota to deed it back to the Government in exchange for other vacant public land within the State.

Mr. Johnson Sarvis has arrived from Ardmore, South Dakota, and will be the station agronomist.

The interior finishing of the most recently constructed residence was completed during the week. This building will be occupied by the assistant horticulturist, Mr. Pfaender. Mr. Sarvis will move into the cottage vacated by Mr. Pfaender.

Tentative arrangements have been made with the City of Mandan for an extension of the city water main to the station line.

Maximum temperature for the week, 75. Minimum temperature 6.

Precipitation none.

North Platte.

Temperatures below normal still prevail but there has been somewhat more sunshine the last few days. About an inch of snow fell Monday night but this has disappeared and the surface of the ground is beginning to dry. Present conditions continuing, field work can probably be begun early next week. Winter grain plats are in very good condition. The evaporation tank was filled April 2 and all weather instruments on the table are not in operation.

General Note.

If any of the field men have failed to get a copy of the office "bible", (instructions in re: handling of plats), or planting sheets for the present year, they should advise the office at once and copies will be sent them.

C. A. BURMEISTER.

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SEASON OF 1915.

APR 10

1915.

Reports for week ending April 10, 1915.

Akron.

We were able to get into the field on Monday for the first time this spring and did about two hours work in the field Tuesday morning. It began to rain about nine o'clock and the remainder of the week was so wet and cold that nothing more was done in the field. The ground dried some on Saturday and probably will be dry enough to work Monday.

Maximum temperature 67 on Saturday, minimum 30, precipitation 1.15".

Amarillo.

The week past has been one of rain, there being rain Tuesday, Wednesday, Thursday and Friday in all to the amount of .96". Except on Monday no field work was done during the week. Maximum temperature for the week was 80 on the 5th; minimum 35 on the 4th. Average mean temperature was 55. Average hourly wind velocity was 8.5 miles. Total evaporation by the 8 ft. tank .895" and by the 6 ft. tank .961".

All crops on the station are making good growth following the rains and the advent of warmer weather. Eleven hundred trees, mostly Evergreen varieties, and some Green Ash are being set out, from seedlings secured from the forest service branch at Garden City, Kansas.

From soil sampling the indications are that with all the rain since last fall very little moisture has penetrated below the 3d foot.

Homer Martin arrived on the station Monday to begin work for the season on plant water requirement experiments, same as has been carried on here for the past two or three years.

Archer.

There have been but 4 days during the past week when it was possible to get on to the field, and they have been spent plowing and disking on the large field. The plats are still too wet to be worked, but if dry weather continues, all plats will be prepared for small grains next week.

The season has been so backward that many of the farmers will be late in seeding their spring grains, as but few have yet done any field work. The current reports for winter wheat, are that it stood the winter well, and farmers are hopeful of a good crop.

Maximum temperature for the week 69; minimum 29. Precipitation .29". Average wind velocity 9.3 miles.

Ardmore. Report for week ending April 3.

Maximum temperature for the week 65; minimum 32. Total precipitation .54 inch. It has rained six out of the past seven days. In other words it has been very damp with very little moisture. However, the wind has been blowing and the sun shining today. If such weather continues we will be able to disk sod land by Tuesday of next week, but it probably will be several days before we can make preparation for seeding spring grain.

Bellefourche.

The first part of the week was cold and rainy, but warm, windy weather during the latter part of the week caused the soil to dry rapidly and it will be possible to start field work the first of next week.

The alfalfa, brome grass, and winter grains have started growth.

There has been no soil blowing this spring due to the moist condition of the surface soil.

Maximum temperature for week 60; minimum 28. Precipitation .42 inch.

Big Springs.

Buildings:

The large outside doors on the barn were hung the fore part of the week. This work practically finishes the barn and implement shed with the exception of a few odd jobs. All the interior plastering on the office and residence has been completed. The office is finished except the placing of a few shelves in the office room and laboratory room. The carpenter work on the residence will be finished in the residence in two or three days more. The staining and varnishing of the interior wood work is under way and no doubt will be finished the coming week. The last coat of pebble-dash still remains to be put on the outside walls of the residence.

Farm Work:

Most of the week was spent in planting trees about the grounds and buildings. A good many of the holes for the trees were blasted with dynamite before planting. This was thought necessary on account of the hard subsoil existing in some parts of the grounds. Another team of horses was purchased the latter part of the week. The station now own five head of work horses which is considered sufficient to work the farm this season.

A drag harrow was started Saturday morning over the plowed land. This is the second working for the cultivated land this spring. On Tuesday night .24 of an inch of rain fell. Thursday night we had another shower of .62 of an inch. This moisture was sufficient to wet the dry soil on top and down as deep as plowed. No crops have been planted yet as the season has been very backward and other work has been more pressing which seemed desirable to finish first. None of the native vegetation such as mesquite, hackberry, walnut, and cottonwood are yet out in leaf. The mesquite is very dormant and has not yet showed any signs of putting out. This is unusual for this section as spring most always opens up earlier. Some corn has been planted by the farmers in parts of the country.

Colby.

Spring wheat, oats and barley were sown Mon. and Tuesday. The ground was in excellent condition. A high northwest wind on Easter had dried the surface considerably, permitting the preparation of a fine seed bed. The wind also caused the fall plowed and the fallow plats to blow some. Plat 9 C, in wheat stubble, accumulated from one to three inches of dirt that blew from adjacent plats. Tuesday afternoon it began raining and continued raining intermittently till Friday. Today we have clear warm weather. To date very little spring grain has been sown among the farmers.

Max. temp. 70; minimum 32. Avg. hourly wind velocity 7.2 miles, evaporatio .615", precipitation 1.97", normal for April 1.98 inches.

Dalhart.

The winter grains and alfalfa especially the winter rye has made considerable growth during the past week. While the weather has not been warm there has been no frost. No wind storms of any consequence have occurred to date. A shipment of about 2500 evergreen seedlings were received on the 9th, from the forestry nursery at Garden City and about 1000 of these were set out Saturday the remainder will be set out immediately. Maximum temperature for the week 79; minimum 33. Precipitation which fell in three showers .58 inch.

Dickinson.

The weather for the week has been especially favorable for farm work. The maximum temperature was 73; minimum 26. Soil sampling thus far shows the frost to be out of the first foot of soil. There was very little evidence of frost below the third foot. This should mean an early warming up of the soil and a consequent earlier crop growth this season.

Therewas only a trace of precipitation during the week. Strong winds during the past ten days have dried out the surface considerably and some soil blowing has taken place.

The wheat plats have been prepared for seeding which will be commenced next week.

A large number of the farmers hereabouts are taking advantage of the fine weather to prepare for a large acreage of wheat this season.

Edgeley.

Seeding has been general here thruout the week. Field work was begun on the station Tuesday. All the fallows, the green manure plats, and corn stubble to be stubbled in to small grains were double disked the 6th and 7th, and harrowed once on the 7th. Plowing for the small grains was begun Thursday and finished the next day. Frost was struck in places at a depth of from five to six inches. All the fall and spring plowed plats were harrowed once on the 9th and 10th. The fall plowed land worked up in very poor condition because of the dry, lumpy state of the surface. All the other plats show a fair amount of moisture at the surface. All the rotation and M. C. wheat was seeded Friday and Saturday while the fertilizer wheat, oats and barley were seeded the afternoon of the 10th.

The brome grass, clover, and alfalfa are beginning to show green at the surface.

The weather has been generally cool and cloudy with considerable wind at times and with a few light sprinkles of rain.

Supt. Thompson visited the Fargo station the first part of the week.

Maximum temperature 70; minimum31. Mean temperature 46.

Precipitation .10 inch.

Garden City.

The weather has continued pleasant for the past week and spring grains come up on the 8th; showing a good stand on all the plats.

Oats were in the ground 19 days and barley and spring wheat 13 days, before coming up.

Winter wheat is beginning to stool and is making a good growth. Though the stand is somewhat thin on some of the plats, there is probably a sufficient number of plants present for the moisture that will be available.

Sampling on the spring wheat plats on the 10th showed the soil moist to a depth of about 18" on plats A, B & C, and to a depth of about 6 ft on Plat D.

Soil samples taken on a lower portion of the farm having a saturated subsoil at a depth of 13 to 15 ft contained the following percentages of moisture:

1- 20.7	6- 20.0	11- 28.2
2- 10.1	7- 22.5	12- 29.3
3- 11.5	8- 24.3	13- 33.3
4- 9.0	9- 24.1	14- 33.1
5- 15.9	10- 28.8	15- 32.1

The land on which the above sampling was done is covered for the most part with a dense growth of salt grass. Samples will be taken from time to time to note the reduction of moisture in the upper depths until sometime in July or August, when the plat will be plowed and the amount of increase in the upper depths noted.

Maximum temperature 77; minimum 32; mean Max. 66, minimum 40.

Average wind vel. for 2 ft Anemometer 9.3 mi.; for 8 ft Anemometer 12.5 miles.

Evaporation 0.929".

Precipitation .99".

Hays.

Monday and Saturday were clear days with sunshine all day. During the remainder of the week it has been cloudy, damp and raining more or less every day. Total precipitation for the week, 1.01 inches. It has been warm during all the week except for one day when the temperature run down to 26 degrees, the minimum for the week. Maximum for the week 76°.

Alfalfa was seeded on one plat Monday. Soil moisture determinations were made to the depth of six feet on fourteen plats of winter wheat Monday and Tuesday. The remainder of the week was spent at office work and carpentering, repairing and completing drawers and cupboards in a laboratory table which was partially constructed a few years ago.

Spring wheat seeded two weeks ago today is now beginning to peep through the ground. W. wheat is making good growth and looking fine. Conditions are very favorable at this time. Alfalfa and brome grass wherever there is a good stand is making considerable growth and the latter would now make some pasture. However, we have no brome sod on the project, except a little in the yard and on one border.

Hettinger.

The evaporation tank was started on the 7th and all climatic data is now being recorded. High winds and a little rainy weather combined to make the past week a poor one for field work. A little breaking for early hog pasture and raking thistles is all the field work we have been able to get at. A rain of .39" fell on the 7th but that and more is now being sucked up by drying Northwest winds.

Maximum temperature 74; minimum 29.

Huntley.

The weather during the week has been favorable for field work.

Wheat was seeded on the 6th and 7th. The seed bed was in excellent condition. Spring plowed plats having worked down better than they ordinarily do. Unless very dry weather follows, the germination should be good. Plats to be seeded to peas, oats, barley and flax were put in shape for seeding.

Soil samples taken during the week show that the soil is wet to about 15 inches on land that grew small grains last year. Fallow plats are wet to 2½ to 3½ ft. in depth.

Maximum temperature 75, minimum 27, average hourly wind velocity 4.6 miles, total evaporation .856", precipitation .03 inch.

The winter wheat fields on dry land in this locality are quite generally infected with a species of army worm. This, from all appearances, is what the State Entomologist calls the "army cut worm". Specimens have been sent to him for identification. Unlike the regular cut worm this one does not work on the roots to any extent. On warm days it starts eating on the outer end of the blade and continues until the plant is eaten to the ground. So far the effect is most noticeable on the edges of the field. It seems that the eggs have been deposited on the native grasses but the larvae shows a particular liking for wheat. Rotation 85, plat C, has been almost entirely eaten off. Other plats of winter wheat and winter rye are slightly infested but so far no disastrous effect has been noted. The "army cut worm" has been very numerous some years in the Gallatin Valley and other wheat districts of the State. While the stand of wheat may be injured to some extent and the crop held back for a week or two, the work of these worms seldom ever entirely destroys the crop.

Mr. Sarvis visited the station on March 30 en route from Ardmore to Mandan. Mr. Cole was here Tuesday of this week. Mr. J. A. Taylor arrived here Tuesday for the season.

North Platte.

The week opened with fair weather Sunday and Monday. Rains occurred Tuesday, Wednesday and Thursday, totaling 2.33 inches. Friday and today have been fair. The surface is drying rapidly but the soil is so thoroughly saturated that it will probably be several days before field work can be begun.

Growth is starting rapidly on the winter grain fields and plats.

Temperature for week Maximum 61, minimum 38.

Mandan.

Field operations consisting of disking and plowing of rotation plats continued throughout the week. Fields are also being prepared for the horticultural work, though most of the horticultural plantings will be postponed until we have some rain, as the surface soil is getting to be quite dry. Several days have been unusually windy. About 100 trees were received for the fruit breeding work and planted in tubs in the greenhouse.

Mr. Cole arrived on the seventh for a week's stay.

Mr. P. H. Dorsett, of the Office of Foreign Seed and Plant Introduction visited the station on the eighth.

Maximum temperature 75; minimum 27. Precipitation .02 inch.

Scottsbluff. Report for week ending April 3.

I reached Scottsbluff March 29th and found the country just recovering from the severest winter it has experienced for many years.

Coming west over the state, it seemed that the country was covered from two to four inches deep with snow. Range stock have had a hard time. It has been necessary to feed them practically all the hay in the country to bring them through the winter.

At the station here, we are just able today to do a little spring plowing, whereas last year at this time the early spring crops were planted. While there has been considerable snow, the soil on the plats is seldom moist below the upper eight inches. This is due to the fact that much of the snow was drifted and also that the soil was thoroughly dried out last fall.

The outlook for a winter wheat crop is poor, as what little did germinate last fall, seems to have been winterkilled.

Tucumcari. Report for week ending April 3.

Precipitation for the week .30 of one inch on the 31st of March. This fell in the form of snow and nearly all of it soaked into the ground doing a great deal of good on the small grains on the station.

Max. temperature 74 degrees on the 30th of March.

Min. temperature 30 degrees on the 1st of April.

During the week one plat of sweet clover and one plat of corn were planted. This corn is for our dates of planting work.

About 125 holes were dug for black-locust trees and over 400 holes were dug for Osage orange seedlings, during the past week.

On Saturday April 3d the writer attended a farmers' institute at Hudson, N. M. There were over a hundred farmers there and all seemed optimistic over the prospects of a good crop year.

Woodward.

The past week, for the most part, little has been done in the field because of the continued wet weather. In all 4.20 inches of rain fell. It came just after most of the small grains had begun to come thru the ground, so if blowing does not affect them adversely there are chances of at least a heavy growth of straw. It is hoped that next week all tree plantings and the planting of Bermuda grass in the lawn will have been completed.

Tucumcari. Report for week ending April 10.

Maximum temperature for the week 82, on April 5th.
Minimum temperature for the week 36, on April 7th.
Precipitation for the week .33 inch.

The principle work of the week was setting out trees and shrubs. Along the north-field fence about 125 locusts have been set out. Over 150 trees have been received from the Office of Foreign Seed and Plant Introduction and have been set out in rows.

The alfalfa seeded on the 24th of March is coming up well and a good stand is assured.

All of the small grains are looking well and are making quite rapid growth.

A couple of days during the week were spent in clearing mesquite from our pastures. As fast as we get time I expect to have all of our unbroken land cleared of mesquite and other brush.

Williston. Report for week ending April 3.

The weather has been good, the days warm, altho freezing has occurred every night. Maximum temperature 65; minimum 16. .05 inch of rain fell on the afternoon of the 3rd.

Field work will begin Monday the 5th, some plowing may be done late in that week. Farmers in the vicinity have been in the fields harrowing for several days. There is less moisture in the soil than a year ago, a good rain would greatly benefit the coming crop and enable earlier working of the ground in this section. There is a deficiency of 1.04 inches of precipitation since January 1st.

The dry land plats are in good condition, the rye on the green manure plats, and the clover and grasses have every appearance of having come through the winter well.

Williston. Report for week ending April 10.

Typical spring weather marked the entire week, with a maximum temperature of 68 degrees on the 9th, a minimum of 25 on the 6th, and three nights of light frost. Strong and sharp winds occurred during the latter half of the week. .27 inch of precipitation came in a slow rain on the 8th.

Work will commence on the dry land plats on Monday. Field work on the station is progressing rapidly, seeding will be begun on the 15th.

Scottsbluff. Report for week ending April 10.

The first part of the week was bad for outdoor work,- just enough small showers to delay field operations. Not until the 10th was it possible to put the spring wheat plats in condition for seeding and the grain drill started.

The late season has crowded us with work and the next few weeks will be busy ones.

Woodward. Report for week ending April 3.

Spring grain, planted a month ago, is now just appearing through the ground. The trees about the country are beginning to leaf out. Due to the continued cold weather until so late a date, it is very probable that little of the fruit has been injured by frost so there are good prospects for a crop. The spring starts more favorably than is usual as January and February are very much above normal in rainfall so the ground is very thoroughly saturated to several feet in depth.

On the Station for the past two months the principal work has been in grading roads and filling in about the buildings and doing the fencing. The chief work of the past two weeks has been putting out ornamental, fruit and forest trees. About 7,000 trees in all will be set. The tree planting on the Station has been made for the most part upon the high, very sandy portion of the farm in order to ascertain whether or not the sand, which is very abundant in this section and is now practically worthless, can be utilized for tree-growing purposes. The kinds of fruit chiefly tried out are apples, plums, cherries, peaches and grapes. Naturally several varieties of wild grape grow here abundantly and the trial of grape varieties has been gone into very thoroughly.

Note.

The following memorandum has just been received from the Chief Clerk of this Bureau:

"It has been noted that property is being reported on inventories as having been worn out or broken, so as to be of no further use, but no statement is submitted explaining what disposition is made of the worn or broken parts.

In many instances they would be of value, either as junk, in case of metal parts, or might be of use to private parties, if they came into their possession.

All inventorial property in Washington, when worn out or broken, should be turned in to the Bureau Property Clerk for disposal through the Department Board of Survey.

In all cases where such property is outside of Washington, and it would not be salable on account of the distance from a possible purchaser, or lack of value, or when it would not pay to have it shipped to Washington for disposal, a certificate signed by the officer in immediate charge should accompany the inventory, showing that it has been broken or destroyed in such a manner as to be of no further value or use to any one.

Reports are also being received of the deaths of animals which are the property of the Bureau, but no certificate of the circumstances causing their deaths are submitted.

All such reports should be supported by statements signed by the officer immediately responsible and by a veterinarian whenever possible, stating the circumstances under which the death took place."

Very truly yours,
(Signed) James E. Jones,
Chief Clerk.

L. A. BUMMEISTER

W E E K L Y B U L L E T I N

OF THE OFFICE OF

DRY LAND AGRICULTURE INVESTIGATIONS

BUREAU OF PLANT INDUSTRY

U. S. DEPARTMENT OF AGRICULTURE.

SEASON OF 1915.

APR 17

1915.

Reports for week ending April 17, 1915.

Akron.

The past week has been very favorable for field work. Monday the plowing for small grains was finished on the rotation and cultivation experiment plats. Tuesday all the wheat on the rotations and cultivation experiment plats was sown, Wednesday the wheat varieties were sown, Friday all the oats on the rotations were sown, and Saturday the oat varieties were sown.

Nothing but a trace of precipitation during the week.

Maximum temperature 78; minimum 30.

Archer.

The past week, excepting two days which were rainy and cold, has been spent in doing spring plowing for small grains, and the seed bed is now being worked down. There is plenty of moisture in the soil, to make spring plowing easy, and a depth of 7 inches can be plowed with less power than last season. The land is working down in good shape.

Germination tests of all seed corn for the DLA plats have been made.

Winter wheat looks very promising and reports from the neighboring farmers are very encouraging. Spring is opening up so slowly that farm work is a week or more behind.

Maximum temperature 75; minimum 29. Precipitation .29 inch.

Colby.

This has been a warm, dry and windy week. Though it has been cloudy much of the time no rain has fallen. The soil on the plats has not blown but there has been considerable soil blowing northeast of town on fields which were not taken care of last year.

The spring grains are all up and growing nicely. Exceptionally good stands have been secured. The winter wheat is beginning to cover the ground. Among the farmers a great deal of oats and barley have been put in this week. Very little spring wheat has been sown in this vicinity.

Mr. Knapp, the irrigation engineer at Garden City, was here last week looking after the completion of the reservoir and the laying of the foundation of the engine and pump house. In another week the irrigation plant will be ready for use. The wells which were deepened to a depth of 160 feet last winter will now throw on an average of more than eighty-five gallons per minute each.

Maximum temperature 78, minimum 32. Average hourly wind velocity 8.4 miles. Precipitation none. Evaporation 1.34".

Huntley.

The weather has been favorable for farm work and the growth of crops. Spring wheat seeded on the 6th and 7th is coming through the ground. Winter wheat is making an exceptionally good growth. The oats and barley have been seeded.

Mr. Howard Seman, of the Montana Expt. Station visited the station on the 11th, and inspected the work of the army cut worm in this locality. Numerous parasites have been operating on the worms, and the number has decreased very rapidly. In other places in the State this worm has completely destroyed considerable areas of winter wheat.

Maximum temperature 85, minimum 25. Precipitation .07".

Amarillo.

Rain and more of it- rain every day for the last four days and it is still raining. Precipitation for the week up till 8 o'clock this morning 1.19" which with the .96" last week makes 2.15" so far this month.

Maximum temperature for week was 75 on the 12th and 13th. Minimum was 37 on the 10th. Average mean temperature was 58. Average hourly wind velocity 11.9 miles. Total evaporation by the 6' tank was 1.269" and by the 8' tank 1.256".

Field work on the station is yet pretty much at a standstill because of the muddy condition of the ground. This has interfered especially with date plantings of the Cereal and Forage crop offices. Present indications are there will be a few weeds to combat with on the station this season again.

Bellefourche.

Plowing of small grains has been finished and most of the plats have been disced and harrowed preparatory to seeding.

The past week has been warm and growing conditions have been favorable. The prairie grasses have made a much more vigorous start than is usually the case at this season.

The clover on rotation 11 appears to be all winter-killed. The stand was thin and the clover made little growth last summer which may partly account for this. Alfalfa and the winter grains came through the winter in excellent shape and have commenced growing.

Soil samples were taken on the M. C. wheat plats. These showed that the soil was moist to a depth of about twenty inches.

Maximum temperature for the week 83; minimum 28. Precipitation .38".

Big Spring.

Buildings:

The office and barn are finished. All the outside work has been completed on the residence and the interior of this building is being painted. All the buildings will probably be completed and accepted by Thursday of next week.

Farm Work:

Harrowing of the field which will be devoted to the raising of feed crops was completed Wednesday. This harrowing has put the ground in fine shape. Wednesday afternoon and night we had .50 of an inch of rain. In some parts of the country the precipitation was much heavier. The weather is still cloudy and the stockmen are jubliant over the prospect of plenty of grass for their stock soon.

Considerable grading has been done around the buildings during the week. Also a number of native shrubs and trees were secured and planted about the grounds. On investigation it was a surprise to find so much native material available of such a large variety for planting purposes. Prospects for a good fruit crop for this section are very good and on investigation it is found that all varieties of fruit promise good yields this season.

Edgeley.

The present week has been dry and windy. The first two days were quite cold but since Tuesday the weather has been unusually warm for this time of the year.

On Monday morning the soil was frozen too hard for any field work to be done in the forenoon. Tuesday the oats and barley in the rotations and M. C. series and the rye and peas in the green manure rotations were seeded. On the 15th the Brome grass and Sweet clover were seeded broadcast and harrowed in. All fall and spring plowed plats are being harrowed today. The surface of the fallow and disced corn stubble plats is already in fair condition and as there is considerable blowing of the soil now it was thought best not to work them up any finer.

Soil samples have been taken on the M. C. wheat and on some of the fallow series. On the fall and spring plowed plats there is a small amount of moisture just below the surface in the first foot, but below that the soil is exceedingly dry. The plats which were fallowed last year contain a fair amount of moisture to the depth sampled (3 ft.) and are in good condition for the present.

Mr. Peters, the animal husbandman for the station at Fargo was here during the first part of the week to consider plats for some livestock to be taken up here. It was decided to buy a number of sows due to farrow soon and try to raise and feed a carload for the market next fall. A few sows have been purchased from the country about here while others may be secured from Fargo.

Maximum temperature 83; minimum 14. Precipitation none.

Garden City.

The past week has been very windy, but no soil blowing occurred; tho the 2 ft. anemometer registered 30 miles per hour at times. The surface of most of the plats has been kept in a rough condition, and vegetation now having a good start; no trouble from the above source is looked for.

Small grains are making a vigorous growth.

Maximum temperature 79; minimum 32; Mean Max. 73, mean minimum 46.

Ave. wind. vel. 8' anemometer 13.7 mi. Ave. wind vel. 2' anemometer 10.5 miles. Ave. Max. vel. 8' anemometer 21.8 miles, Ave. max. vel. 2' anemometer 16.8 miles. Evaporation for week 1.583".

North Platte.

Weather throughout the week has been dry with strong winds prevailing. The first field work was done Monday. Preparation and seeding of plats and fields has progressed during the week, and will be pushed to completion as rapidly as possible. A maximum temperature of 84 degrees was reached on the 15th. Temperatures for the week, Max. 73, minimum 39.

Dean E. A. Burnett, Director of the Nebraska Experiment Station, expects to visit this station today.

Hays.

The weather during the week has been generally warm, (Maximum 82, Minimum 38), gentle breezes most the time with occasional spurts of high wind alternating with occasional lulls when there was no wind. Considerable cloudiness, but no precipitation. Fine growing weather for all crops which have been seeded.

Winter wheat and rye is making rapid growth. Spring grains, spring wheat, barley and oats are all up and looking fine. A good stand of these grains has been secured. Also Canada field peas seeded April 2nd are up and looking fine. Brome grass seeded the same date is coming up nicely and at present, the prospects are fair for a good stand. A very poor stand of alfalfa was secured from the seeding made April 4th, so the plat was cultivated to destroy the weeds which were undescribably thick and the plat was re-seeded today.

It is safe to say that weed seed never germinated better than it is doing this year. Although the stand of spring grain is good, the weeds are coming up so thick, there is a very good chance for the crops to become more or less crowded and choked by the weeds.

Winter wheat was cultivated today with weeder to destroy weeds. Spring seeded grains are a little too tender yet to endure such an ordeal, but will be cultivated in the same way within a few days, to destroy as many weeds as possible.

During the week soil moisture determinations were made to the depth of six feet on twenty winter wheat plats. These are plats upon which no previous determinations have been made this spring, and include additional methods of seedbed preparation, and rotations No. 551 and 560 inclusive. Six inch soil samples were taken for moisture and nitrate determinations on M. C. Winter wheat, plats A to C inclusive and on winter wheat in rotations 551, 554, 555, and 556.

Considerable staking was done during the week preparatory to trimming of plats, and the trimming of the plats was commenced.

Judith Basin.

The past winter throughout this section was very mild and dry. The precipitation from Nov. 1, 1914 to March 1, 1915 was as follows:

Nov..64, Dec..21, Jan. .76, Feb. .08 inches, making a total of 1.69 inches for the four months. The precipitation for March was 2.06 inches which was considerable more rainfall than for the same months for the past four years.

The unusual amount of rainfall for March made conditions very favorable for the growth of the winter wheat in this section. Perfect stands have been obtained with all winter wheats on the station farm. This condition is true through the Basin. Due to the prospects of high prices of wheat this year, practically all the tillable lands have been seeded to grains. A large portion of these lands have been stubbled in. At present the winter wheat on stubbled in land is in excellent condition. With any kind of a normal season, a large crop of wheat will be harvested.

The fall plowed plats on the rotations were double disked and harrowed April 4-5th. Thirty acres of Sixty-Day oats and 11 acres of White Smyrna barley were seeded the past week. Spring plowing for grains on rotation plats will be completed within the next few days. If present weather continues, will have most of the spring planting completed by the end of the week.

Ardmore.

Maximum temperature for the week 80; minimum 35. Average wind velocity 5.9 miles per hour. Total precipitation .33 inch. The precipitation was in the form of rain and came on the 14th. The soil was already wet and this small amount of rain interrupted farming operations for two days, with the result that we did not succeed in getting any small grain seeded this week. The rotation plats are all in shape, however, and seeding will be commenced Monday morning of next week.

Grass started to grow during the early part of the week and has come out very rapidly. Stockmen declare that the growth during the past few days is the best that they have seen so early in the season for a number of years.

Winter rye came through the winter in excellent condition and is making a good growth this season. Winter wheat is also in good condition but has made very little growth.

Dalhart.

The spring grains are germinating nicely and a good stand has been secured. The alfalfa, winter wheat and winter rye have made an excellent growth during the past week. With the exception of a short time Saturday afternoon it has been raining almost continually, the total precipitation being 3.44 inches. This brings the rainfall for April to 4.04 inches which is a record for this month, the nearest approach being a rainfall of 3.98 inches in 1914.

Maximum temperature for the week 79; minimum 33.

Mandan.

The wheat plats in the main rotation field have been planted. Some tree seed was planted and about 40,000 willow and poplar cuttings were made. On account of the continued dryness of the soil, the planting of the horticultural crops is being withheld. Some of the tree seed that germinates at a low temperature has been put in cold storage to retard germination until the soil is in condition for planting.

Director Cooper and Vice-Director Sheppard of the North Dakota Expt. station visited the station on the fifteenth. Tentative arrangements were effected concerning the grazing experiments that are to be conducted in cooperation with the State.

Mr. Cole left on the 16th for Hettinger.

Mr. Pfaender is on a trip to the Killdeer Mountains to procure stock of some of the fruits that are native to that region.

Maximum Temperature 88; minimum 19. No precipitation.

Scottsbluff.

The weather has been such that field work was possible every day. There has been much disagreeable wind which dried the soil out very rapidly. No rain fell and temperatures were normal for this time of the year.

Spring wheat, peas, clover, alfalfa, and brome were seeded and land prepared for oats and barley, which will be put in next week. The condition of W. wheat on fallow and disked corn plats is below normal while that on fall plowed and green manured land shows little promise of making a crop.

Tucumcari.

Max. temp. for week 79 on the 12th & 13th; minimum 37 on the 10th. Precipitation for the week 3.56". This rain came in the form of showers and so gently that there was very little run-off. Prospects are fine for a good crop as the ground was already in fine shape before these last rains and with these the ground is now in better shape than I have ever seen it at this time of the year.

During the week a little over an acre was planted out in fruit trees. A few ornamental plantings were made around the buildings. Holes were dug for several more shade trees.

Sufficient cotton was ginned during the week to supply us with seed for our rotation and C. C. plats.

About half of one day was spent in grinding milo and feterita for horse feed.

From all appearances spring is here at last. The pastures are becoming green, the fruit trees are blossoming and nearly all other trees are sending out leaves.

The alfalfa planted on the station is making rapid growth and some of that planted last year is up to a height of nearly a foot. The small grains are making a rapid growth, being about 10 inches tall at this time.

Woodward.

The past week has been spent in cultivating all of the old ground on the farm in order to kill weeds which started after the heavy rains of last week and to prevent blowing. Blowing has been a serious menace to many of the oat and barley fields about the country, due to the smooth, hard surface caused by the large amount of precipitation.

A great deal of work was also done on the Station during the week in completing the windbreak and ornamental planting. This work was practically finished.

About the country some few people have started to plant corn and some will probably be planted on the Station next week. The wheat and rye throughout the country is in very fine shape and in some cases, especially on the heavier land, there is a much too heavy stand. This is also true on the Station. Some work has been done in thinning with the cultivator. This work will be continued during the week.

At this date probably danger from severe frost is past. The fruit trees have been held back until the present week when they have all come out in bloom, so the outlook for fruit this year is hopeful.

Memo. in re staking plats, by John S. Cole.

We used a very rapid and accurate method of staking plats at Mandan this year. So far as I know this method has not been previously used.

The plats are in blocks of twelve in each series, with permanent foundation stakes marking each essential corner. Two strand twisted smooth fence wire was available. A section of this of the length of twelve plats and alleys was stretched and staked with the corn planter stakes. Adhesive tape was used for buttons or markers which were placed at the necessary distances to mark the edges of plats and alleys. All that was then necessary was to stretch and stake it in the desired position and drive the stakes. This exactly spaced the stakes and lined them in each direction the easiest and quickest of any method I have ever used.

Notes.

In accordance with Memo. No. 123 of the Secretary's office, the approval of the Secretary is absolutely necessary prior to the purchase of all cameras and lenses, on and after April 1, 1915.

The field men are especially requested to advise this office upon receipt of supplies, furniture, etc., ordered on requisitions through this office, so that the accounts can be passed for payment at the earliest possible moment.

C. A. BURMEISTER.

W E E K L Y B U L L E T I N

OF THE OFFICE OF

DRY LAND AGRICULTURE INVESTIGATIONS

BUREAU OF PLANT INDUSTRY

U. S. DEPARTMENT OF AGRICULTURE.

SEASON OF 1915.

APR 24

1915.

Reports for week ending April 24, 1915.

Amarillo.

This again has been a rather rainy and cloudy week so that practically no field work either on the station or on farms around here has been done.

Precipitation for the week is .87" which makes a total of 3.02" for the month, or 1.07" above normal for April in this section.

Maximum temp. for week 79 on the 21st; minimum 40 on the 17th. Average mean temperature for week 56 degrees.

Ave. hourly wind velocity 7.9 miles.

Evaporation by 6' tank .848"; by 8' tank.813".

Shallow sampling of soil only was done during the past week on account of the muddy condition of the field.

A number of apple, plum and cherry trees are being set out to take the place of some that killed out last season. Also 50 wild peach trees have recently been set out. Fruit trees have been in blossom for the past two weeks or more and now that danger of frost is normally past the prospects of a fruit crop in this section is good.

Winter rye is nearly knee high and all other crops are coming on by leaps. The weeds are showing up thick as hair on a dog's back.

Ardmore.

Maximum temperature for the week 80; minimum 39; average wind velocity 5.9 miles per hour; total precipitation 1.83 inches.

Rain began to fall about midnight on April 23rd and it continued to rain steadily for 22 hours. It was by far the nicest that we have had in this country since the station has been established. Fortunately we had finished seeding wheat, oats, barley, alfalfa and brome grass before the rain started. Moisture determinations made previous to the rain showed the soil wet to a depth of four feet. The condition of the grass in this country is of prime importance. It is the best this spring that it has been for years. In other words we are starting the summer under favorable conditions, but we have our doubts about this South Dakota weather.

Colby.

Excellent growing weather has prevailed most of the week. The fore part of the week was warm and clear, while the last three days were rather sultry and rainy. All of the grains have made rapid growth. The prospects for a fruit crop are very good this year as all the trees have gone through the winter in good condition. The apricot trees blossomed abundantly this week, while cherries, plums, pears, peaches and apples show fruit buds in abundance.

The work on the D.L.A. field this week consisted of soil sampling and lining of the plats. If the weather permits preparation of the corn ground will begin Monday.

The Station grounds have been parked this spring with 800 trees of Chinese arboraitae, red cedar, Russian olive, green ash, and honey locust.

Max. temp. 77; minimum 36. Ave. hourly wind velocity 4.6 miles.

Evaporation .953", precipitation .46" and more falling.

M.C.W.Wheat plat A will not have more than a tenth of a stand, and 153 D, rye, will not have much more than half a stand. The ground on these plats was so dry last fall that most of the grain never came up. Some more came up this spring but not as much as appeared to be coming. 153 will furnish plenty of green manure as the thistles are up thick, but the A plat will not produce much wheat. What is supposed to be done in such cases?

Dalhart.

The rains of last week continued Sunday and Monday the total being, for the week, .85 inch. This brings the total precipitation for the month of April, to date up to 4.87 inches.

All of the small grains and alfalfa are making a splendid growth. There, has, to date, been no damage done by soil blowing.

The present indications are that there will be a much larger acreage of all crops planted in this vicinity than last year.

Big Springs.

Buildings: The buildings have not yet been accepted, on acccount of some painting still remaining unfinished. This delay has been caused on account of not having sufficient varnish and stain on hand to finish with. The material had to be ordered from Dallas but it has been received and the buildings will no doubt be completed in full by the middle of next week.

Farm work: Not much farm work was done during the week on account of wet weather. Over two inches of rain has fallen since last Saturday according to the local weather observer. Our weather apparatus has not yet arrived so we have no record of amount that fell at the station. It is still cloudy and is raining at intervals and it promises to be a real wet spell. All the farmers and stockmen are feeling good over the prospects for a good year.

Not much crops have been planted throughout the country on account of the recent wet weather. We have the experimental plats staked off and will begin planting as soon as the field gets dry enough to work. Up to date we have received close to four inches of rain in April. Since the 1st of Jan. over five inches of rain has fallen. The "old timers" state that this has been the wettest April for this section in years.

Dickinson. Report for week ending April 17th.

Maximum. temp. for week 86; minimum 26. Precipitation T.

Thus far April is the driest it has been since the establishment of the station. Conditions have been very favorable for farm work and in consequence much seeding and preparation for seeding has been done. Reports from the state as a whole indicate that spring work is further advanced at this time than it has been for years. This may not be due to the earliness of the season so much as it is due to the continued good weather after the season did open up.

There seems to be ample moisture in the soil under most conditions to start germination. However, unless we have at least a few small showers soon the moisture stored in the surface soil will be dissipated and germination checked. The prairies are dry as tinder and damaging prairie fires are almost a daily occurrance. A dairy farmer near Dickinson was burned out only this week and one man had an eye put out in fighting the fire.

Oats were sown on the D. L. A. project on the 17th.

Garden City.

Practically the entire week has been spent in doing field work. Spring plowing for corn, kafir and milo, was done; many of the kafir seed bed plats were cultivated; and the fall plowed corn and sorghum plats were disked. Most of the plats cultivated had a vigorous crop of Russian Thistles started, and the cultivation was very efficient in destroying this growth.

All of the alleys on the project were cultivated with a five-tooth cultivator to destroy weeds.

Both the Irrigated and Dry Land mulch plats were worked with the disk and harrow to establish the 6" and 3" mulches, and soil samples taken.

There has been no soil blowing this spring to retard the growth of small grains, and these are showing up nicely.

Several hundred trees, comprising, Evergreens, Russian Olive, Ash, and Elm have recently been set out about the buildings and in the forest plantings.

Precipitation .26" distributed in light showers.

Max. temp. for week 61; minimum 40.

Ave. wind velocity 2' Anemometer 7.6 mi.; 8' anemometer 10.0 miles.

Evaporation 1.03 inches.

Hays.

The weather during the week has been generally warm and cloudy and very threatening at times, but without little rain. Total precipitation for the week, .09 inch.

Maximum temperature for week, 79; minimum 41.

During the week soil moisture determinations were made on ten plats. Six inch soil samples were taken on four plats for moisture and nitrogen determinations. Plats to be spring plowed for corn and sorghums and plat L in methods of fallowing were plowed and harrowed. Fall plowed plats were cultivated to destroy weeds. Tillage work, including leveling ridges by cultivation, harrowing ridges, and listing of one plat not previously cultivated, as a part in seedbed preparation for kafir in series of rotations Nos. 501 to 510 was done the 22nd. The staking of plats for trimming was finished. It will require about one more day's work to complete the trimming of plats except corn and sorghums which have not yet been seeded.

The Cattleman's second annual convention was held at the Ft. Hays Branch Experiment Station yesterday, April 23rd. Considering the busy season there was a fairly good attendance. Good interest was shown by the questions and discussions which followed the lectures. Lunch was served at the Station, the meat being furnished from the Experiment Station herds, and the lunch was served by the Domestic Science girls of the Hays State Normal. The delegation from the Kansas State Agricultural College included President Waters, Dean Jardine, Professor Call, Reed and Cochel.

A good rain is falling this afternoon.

Archer.

The first three days of the week were favorable for field work, and all plats were made ready for seeding except, spring plowed corn plats. All plats on the station have been measured and staked ready for seeding. Wednesday and Thursday were rainy in the afternoons and on Friday it rained all day and all night. The only seeding that has been done at Archer, to the present, is oat varieties of the C. I. work.

Very little of the 1.52 inches of rain which fell during the past week has run off, as the rains were slow and steady. This put the soil in excellent shape for seeding and germination.

J. W. Jones formerly Superinterdent at Archer left for Nephi, Utah today, where he is to become Superintendent at the Nephi Station, successor of J. W. Jones is V. H. Florell, of the Kansas Agricultural College.

Maximum temperature for the week 67; minimum24. Precipitation 1.52".

Hettinger. Report for week ending April 17, 1915.

The past week was warmer than normal and grass is coming out very rapidly. Alfalfa in rows and the brome grass plats are looking fine. Prairie grass pastures are far enough along to carry young stock in good shape.

All fall plowed plats are in poor condition being dry and lumpy. No amount of work will bring them into good tilth until we get rain. Spring plowing for small grains has been completed. All disking and harrowing of the plats previous to seeding is finished and planting will begin on Tuesday.

Several bad prairie fires have swept the grass lands in the vicinity andmany quarter sections of grazing and hay land has been put out of commission for the year.

The max. temp. for week was 83; minimum 24. Precipitation .04".

John S. Cole is spending the day at this station and will leave tomorrow, April 18th, for Edgeley.

Mandan.

The long looked for rain arrived on the twenty-second. On the 22nd and 23rd the precipitation totaled .94". The weather continues cloudy. During the six months previous to this rain, the total precipitation was only about an inch. The forepart of the week was characterized by heavy wind and drifting soil.

All of the wheat and oats and a part of the barley have been planted in both rotation fields. On account of the dryness of the soil, it was impossible to produce a satisfactory condition of tilth on some of the plats.

Since the rain all available men have been busy planting evergreens, tree seed, etc. This work has been greatly delayed on account of the dry weather but will be pushed during the next two weeks.

The winter wheat on the rotation plats all winter killed.

Maximum temperature 87; minimum 40. Precipitation .94".

North Platto.

Seeding of plats with the exception of alfalfa and brome grass was completed on the 20th. Soil was in very good condition. Grain seeded a week ago is already up.

Heavy dashing rains occurred during the nights of the 21st and 22nd. Considerable damage was done by washing of plats. Ditches were cut in some of the roadways and across the ends of several plats. Seed was in some cases washed from one plat to another. Water is still standing in the lower places.

Precipitation for the week 2.88 inches.

Max. Temp. 80; minimum 39; mean 60.5.

Tucumcari.

Max. temp. for week 80 on the 22nd; minimum 37 on the 18th.

Precipitation for the week .07 of an inch on the 18th.

Mr. Fay A. Wagner, a Junior at the N. M. Agr. College arrived here Tuesday of this week to help on the station during the summer.

One plat of corn, date of planting work, was planted this week.

Posts were set this week about one-third of the distance around the pasture. We hope to finish setting the posts this week and start putting up the woven wire fencing.

All of the variety plats were disked during the weed to break up the crust formed by the heavy rains of last week.

Soil samples were taken Tuesday, on the spring wheat M. C. plats to a depth of six feet and the ground was found well filled with water down to that depth. In several places the ground was literally muddy to a depth of four feet.

All of the small grain plats, with the exception of two plats of winter rye and the A plat of Winter Wheat M. C. Series were single harrowed during the week.

Up to date this month we have had 4.25 inches of rain. The 10 year average for Tucumcari is only 1.76 inches for April.

Williston. Report for week ending April 17th.

Practically all the fields have been prepared for the spring grains. Seeding was begun on the 15th, when the cereal variety plats were put in. The dry land plats are all prepared and will be seeded to wheat and oats the first of the coming week. The soil is somewhat dry, fall plowed land on the higher ground showing especially lack of moisture, as it went into the winter dry and apparently dried out more.

The weather has been unusually warm for this season of the year. Maximum temp. 86 on the 14th; minimum 29.5 on the 12th, with a mean of 55, and only two freezing nights. Heavy winds the latter part of the week added much toward drying up the moisture from the soil. There was no precipitation, although there were several indications of rain.

Due to the warm weather vegetation is advancing well, trees are budding and shooting, and the alfalfa fields are green. It is feared that this premature start may be affected by frost and cold weather.

Field work is well along in the neighborhood, and there is an indication of a large acreage of wheat, altho the latter does not crowd out interest in corn, alfalfa and livestock as it was feared. There will be no water furnished by the irrigation project this year according to present plans.

Akron.

The first four days of the week were very favorable for field work. On Monday the barley varieties were sown and a few fruit trees were set. Wednesday and Thursday the potato varieties were planted. A heavy rain Thursday night made the ground so wet that it was impossible to get into the field again during the week.

Spring wheat on the rotations and the varieties is coming up. Cherry and plum trees are beginning to blossom.

Maximum temperature for the week 77; minimum 32. Precipitation 2.08".

Bellefourche.

During the first two days of the week the cultivation preparatory to seeding was completed and the plats staked. On the 21st the wheat was seeded but since that time no field work has been done on account of rain.

There has been 1.70 inches of rain this week and all of it has gone into the soil there being no run-off on cultivated land.

Winter wheat and winter rye are growing well, though the stand of winter wheat is poor on all of the plats except the one fallowed last season.

The new homestead law allowing settlers 320 acres of dry land has brough quite a number of new homesteaders into the country, and many of the old homesteaders amended their filings to include another 160 acres of land.

The maximum temperature for the week was 83; minimum 34.

Dickinson.

Up to today the total rainfall for April was only a trace. However, since making the observations for the 23d 0.63" has been recorded. Owing to continued cloudy weather following this rain it is to be expected that a maximum percentage will be conserved to help along germination of the seed already in the ground.

The maximum temperature for the week was 84; minimum 36.

Edgeley.

The first part of this week until Friday has been quite dry and windy. A nice rain came Friday which wet the soil in good shape for the first six inches on the surface. This will undoubtedly help the starting grain considerably, as the surface on the spring and fall plowing was quite dry, and the soil has blown considerably.

The wheat and barley are just nicely up while the oats are just coming up, although somewhat unevenly.

For the first time since the rotations in which sweet clover is grown were started here (1907) a large portion of the sweet clover has apparently winter killed. There was a heavy growth of the sweet clover seeded last year over the entire plat in each instance, but now there is a good stand only in spots. This is true also of that seeded in other places on the station. The alfalfa and red clover came thru the winter in good shape. There is a good stand and both are growing nicely.

Maximum temperature 83; minimum 40. Precipitation .86 inch.

Hettinger.

Wheat on the rotation plats has been seeded and oats will be next as soon as the soil dries up sufficiently after the rain of 1.13" which fell this week. This rain came down slowly and there was no loss from run-off. Native pastures are in fine condition.

Implement men say that the demand for listers for planting corn has suddenly arisen among the farmers of the region. No work has been done along that line at this station. The acreage of corn will be considerably increased.

Vice-Director Sheppard and Horticulturist Waldron of the Central Station are here today laying out the grounds for more extensive tree planting.

Max. temp. 85; minimum 34. Precipitation 1.13".

Scottsbluff.

All spring seeding was completed on the 20th, i.e. with the exception of corn, which was planted the first week in May. On the 22nd it began raining and continued steadily for twenty-four hours. A total precipitation of two inches fell at the station, none of which was lost by run-off.

Conditions have been most favorable for germination. Wheat planted on the 12th was up on the 19th. Good stands resulted on all plats.

Wheat, oats and sugar beets were seeded on the fall irrigated series of plats which are to be used in the soil moisture reduction experiments.

Williston.

The wheat and oats plats and the peas were seeded on the 19th. With the light rain during the week the soil is in good, mellow condition. The barley plats will be seeded early next week.

Soil samples have been taken on the M. C. wheat. Excepting the first few inches, the soil shows a fair amount of moisture. The slow rain after the samples were taken has connected with the sub-surface moisture, leaving the soil in excellent condition for germination.

Weather conditions favorable. Maximum temperature 80.5, minimum 38. .39 inch of precipitation.

Director Thomas Cooper of the Experiment Station and Mr. John S. Cole are visiting the station today.